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# PACKAGING®

THE CAHNERS MAGAZINE FOR DECISION-MAKERS/SEPTEMBER 1989

## READERS CHOOSE 1989 INNOVATOR AWARDS

WestPack '89 Planning Guide

What's New In Films & Resins

New Line Handles 14 Products With Quick Changes

New Survey Charts Materials Use

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**EDITORIAL OFFICES**
DES PLAINES, ILL. 60017-5080
Cahners Plaza
1350 E. Touhy Ave. P.O. Box 5080
312/635-8800

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# Materials Survey Reveals Changes

## Reader's poll points to new user trends

In the spring of 1989 as in years past, PACKAGING polled its readers to determine which containers and materials they were using and whether they would use more, the same amount or less in the coming 12 months. This exclusive study provides proof that the market is changing in subtle but significant ways.

The full survey, available from PACKAGING, contains information on SIC categories 20 through 39. In this condensed report we'll discuss some findings from the entire group while concentrating on the two largest categories: SIC 20 (foods and beverages) and SIC 28 (pharmaceuticals and cosmetics).

The coming year is likely to be a period of slower growth. The percentages of respondents planning to use more jars, cans, cartons and bottles in 1990 have fallen generally from 1989. The percentages planning to use the same amount have risen.

Some foods-and-beverages packaging concepts probably will enjoy good growth. Single-serve packaging is the most widely applied concept: 15.6 percent of foods-and-beverages respondents report use of it. Of those users, more than two-thirds say they expect to increase their application of single-serve packaging in 1990.

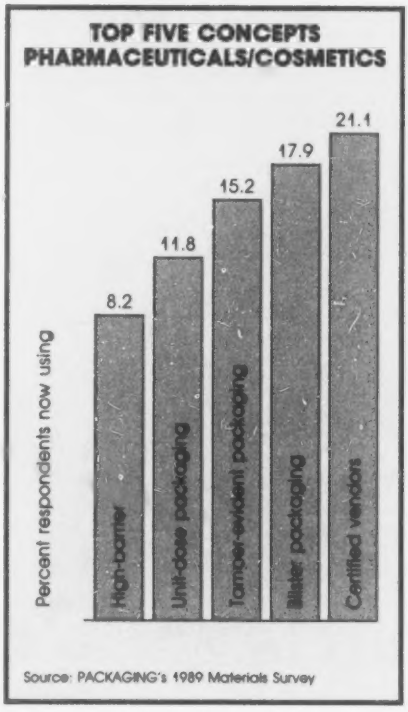
A large percentage of foods-and-beverages respondents report using controlled-atmosphere/modified-atmosphere packaging. And nearly three-quarters of them say they plan increased application of CAP/MAP technology and materials in the coming year.

Although PACKAGING magazine's 1989 Consumer Survey (June) revealed what could be interpreted as a leveling off of consumer use of microwave ovens, foods-and-beverages respondents to our Material Survey express continued enthusiasm.

Also in our Consumer Survey, consumer respondents said they felt packagers were doing a good job in protecting them from product tampering. The reason for that shows up in our Materials Survey: Use of tamper-evident packaging remains high.

Reliance on certified vendors also is likely to increase significantly—especially among the pharmaceuticals-and-cosmetics group. Nearly 70 percent of present users in this group expect their use of these vendors to increase in 1990.

Pharmaceuticals-and-cosmetics repondents also foresee increased use of blisters, unit-dose packaging, high-barrier packaging and tamper-evident techniques in the coming year.




Of the nearly 60 percent of respondents presently using paperboard folding cartons, close to half say they will increase their use of them in 1990. Also enjoying high current usage rates are pre-made and multiwall bags and pouches; polyethylene jars and bottles; plastic tubs, cups and trays; and paperboard trays.

Projected usage rates are falling for some containers. For example, a fairly high 11.7 percent of the '89 aerosol users say they expect to use fewer aerosols in 1990 than they did in this year. A high 15.4 percent of respondents say their use of aluminum trays will drop in 1990.

Flexible packaging materials in general appear likely to enjoy excellent growth in the coming year. Our respondents predict significant increase in their use of metallized film. Also, although the number of current users of EVOH and PVDC is small, a relatively high percentage of them say they expect to use more of these barrier materials in 1990. Flexible paper and polyethylene, already enjoying wide use, also should keep on growing through 1990, as should other flexible co-extrusions and laminations.

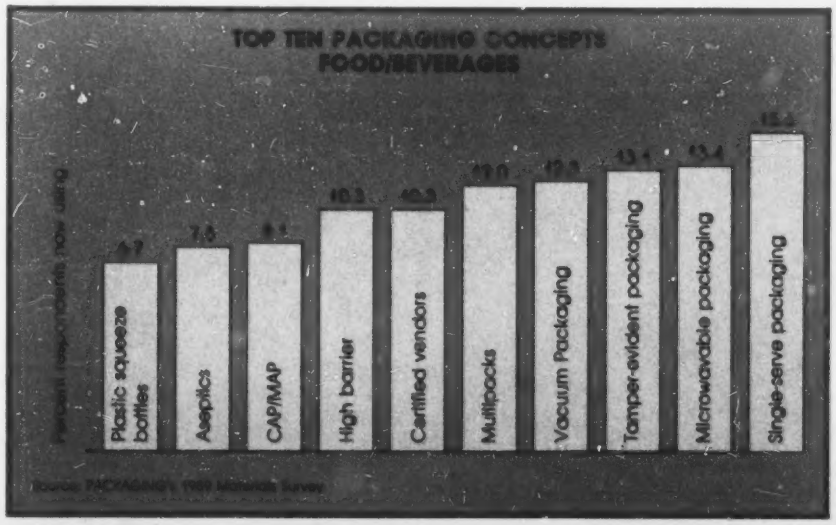
Although the percentage of users of tamper-evident closures among our SIC 20 and 28 repondents has held fairly steady year to year, users expect substantial growth here in 1990. More than 61 percent of foods-related users and 55.4 percent of chemicals-related users say their use of tamper-evident closures will increase.

When it comes to labeling, one material rises to the top: Paper is presently most prevalent. Of the competing application techniques, pressure-sensitive labeling is currently in widest use and appears likely to grow fastest.

In the area of case packaging/shipping materials, corrugated is the material used by the highest percentage of respondents. Almost two-thirds say they presently use corrugated bulk boxes; more than half say they use corrugated cases. Other high rates of both present and projected use are reported for high-strength and pre-printed corrugated.

But of all materials used in case packing and shipping, it is the lowly wooden pallet that's used most extensively—by almost 70 percent of all respondents. Stretch wrap for unitizing loads stacked on those pallets also is used by a big percentage of respondents, who predict significant growth in their reliance on it through 19990.

Our respondents foresee environmental concerns growing and increasingly affecting their use of various packaging materials. Asked whether such considerations will affect them in 1990, 57.5 percent of all respondents say yes.



# ENVIRONMENTAL NEWS

## Somebody Still Wants Newsprint

### Despite glut, there's a packaging purchaser

Sealed Air Corp. has teamed up with the city of Greensboro, N.C., in a recycling effort to keep millions of pounds of waste newsprint out of the city's landfill. Fiber from the old newspapers is used in making Sealed Air's padded mailers, produce pads and furniture pads.

The recycling program, promoted by the Greensboro-area Junior League, encourages citizens to bring newspapers to designated dumpsters. Picked up by city trucks, the material is delivered to Sealed Air's plant in High Point.

Don Smith, Greenboro's superintendent of sanitation, says the program has saved the city $40,000 in landfill tipping fees and generated revenue totaling $120,000. More than $7,000 from the program has been donated to charity.

**Valueless** in many parts of the country, old newspapers are still being collected in Greensboro. Recycled newsprint is used as cushioning in kraft-paper mailers manufactured by Sealed Air Corp.

In many parts of the country, old newsprint is valueless. Papers bundled by homeowners for curbside pickup in more than a few communities are not being recycled as was originally intended but are going to landfills instead. Some experts in the field of recycling are advising organizers of new curbside programs to exclude newsprint until the glut comes to an end. More than a few established programs have stopped collecting it altogether. No one wants it.

Sealed Air, however, plans to continue buying newsprint from the city, and at prices well above the market rate. Says Bill Armstrong, the company's technical development manager, "This represents one of the many steps Sealed Air will take toward contributing solutions to environmental and solid-waste problems."

In addition to the padded mailers, Sealed Air also manufactures kraft-paper packaging products made of 100 percent recycled materials.

The amount of material recycled by the company in Greensboro, according to a company spokesperson, would fill a soccer field with bundles 10 feet high.

## Book Focuses On Plastic

### Rutgers describes collection, markets

The Center for Plastics Recycling Research at Rutgers, the State University of New Jersey, has published a manual focusing on the science and economics of including post-consumer plastic beverage bottles in multi-material curbside recycling programs.

According to Wayne Pearson, executive director of the Plastics Recycling Foundation, a group that was instrumental in establishing the CPRR, the manual "confirms that the inclusion of plastic beverage containers in a curbside collection program along with glass, metal and aluminum containers is economically attractive." He adds, "Research and commercial experience indicate that plastic beverage containers will become a major recyclable material in curbside programs nationwide in the very near future."

The 200-page manuals, priced at $60 are available from the Center for Plastics Recycling Research, Rutgers, Bldg. 3529 Busch Campus, Piscataway, N.J. 08855.

## Video Promotes Curbside Plans

### Tape touts benefits to policymakers

The Glass Packaging Institute has released a new video promoting comprehensive curbside recycling. Says Lewis D. Andrews, Jr., president of GPI, "We want to show state and local officials how to encourage their citizens to recycle."

Andrews continues, "Comprehensive curbside recycling programs, such as the ones profiled in the video, are diverting as much as 35 percent of municipal solid waste from landfills. "

The new video complements GPI's workbook, *Comprehensive Curbside Recycling: Collection Costs and How To Control Them.* Both the booklet and the video are available from the Glass Packaging Institute, 1801 K St. N.W., Suite 1105-L, Washington, D.C. 20006.

## Some Consumers Still Favor Deposit Laws

### Westerners like the idea most of all

Container-deposit laws—often criticized by bottlers and recycling advocates alike—appear to be a popular idea with consumers.

PACKAGING magazine's 1989 Consumer Survey shows that a majority of consumers in the Northeast, North Central and West regions of the U.S. who live in no-deposit states would vote to enact deposit laws. Leading all regions is the West, where 60.7 percent of consumers would vote for container deposits if they could.

Apparently, consumers feel they will get their deposits back. However, in Michigan, for example, unclaimed deposits total millions of dollars. These funds can't be spent by the state or anyone else—they're in legal limbo.

A full report on consumer opinions regarding solid waste as it relates to packaging appeared in PACKAGING's August issue, which was devoted almost entirely to the trash problem.

# Users of Flexibles Play It Safe

Packagers consider all options in their search for cost-effective product protection

By Greg Erickson
Senior Editor

**Metallized film** protects the flavor of a new line of snack crackers. The tough film also resists punctures from the crackers' sharp corners.

Call it pragmatism. Despite all the hoopla and hyperbole about ultra-high barrier co-extruded films, food processors are conservative in their use of flexible packaging materials.

Resin producers and film suppliers interviewed for this story agree with results of PACKAGING's 1989 Materials Survey when it comes to flexible-packaging technologies: Packagers don't rush into co-extrusions so long as laminations and metallization provide sufficient product protection.

Users of flexibles are examining their needs and the cost of every potential benefit of co-extrusions . . . with more than a little healthy skepticism. As one supplier of resins and films puts it, "Co-extrusion is still an art, not a science."

No doubt about it, multilayer films have made great strides in packaging. Among makers of confections and salty snacks, for example, polypropylene co-extrusions are widely considered not only fashionable but indispensable. These are highly complex structures. Yet, says a supplier of flexible materials to this market, "Five- and seven-layer co-extruded films just aren't happening."

A major factor may be the difficulty of orienting polymeric-barrier co-extrusions. One plastics professional says he believes oriented co-extrusions of films having as many as 11 layers will eventually prove feasible. But before that can happen, he says, improvements will be necessary in both tie-layer polymers and co-extrusion die technology. For the present, he adds, OPP barrier-layer structures should be considered "long-term development activities."

Another factor, surely, is that pragmatism. Do snacks and confections really need all the protection that would be offered by 11-layer barrier films? Probably not.

### Shelf life vs. cost

In considering the cost of competitive high-barrier materials, end users are establishing exact shelf-life requirements and specifying barriers no greater than needed to meet those requirements. "It used to be," says a film supplier, that in estimating needed shelf life, "you looked at 30 days and you looked at a year. Now the industry is becoming more sophisticated. Everyone's saying to their own development department, 'Make a barrier that will give a shelf life of this particular length.' " A result is that extremely complicated structures are sometimes viewed as superfluous.

End users are scrutinizing single-layer films, too, and judging them on the basis of performance vs. price. Polyester, for instance, is more expensive than oriented polypropylene, so polyester people sell their material on the basis of product-protection superiority. Sometimes that works to the advantage of polyester; sometimes it

**Candy maker** Brach's simplified the packaging of its non-chocolate confections by moving to an acrylic-coated OPP, which until recently was available only in Europe.

doesn't. Says a polyester source, "We've often built our hopes on a lot of products [staying with polyester] and then six months later found that they're in OPP. We're continually seeing polypropylene replacing us and us displacing them. That's where the battle lines are drawn."

#### Lamination leads

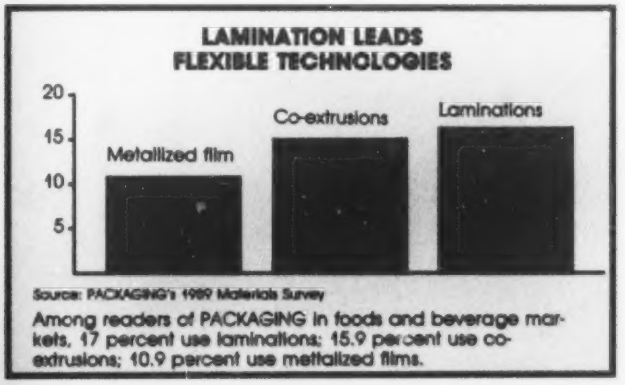
So if co-extrusion is not the dominant technology, what is? PACKAGING's 1989 Materials Survey shows that lamination is the flexible-packaging concept in widest use among our readers.

Much of that lamination includes aluminum foil. Says a spokesperson for a giant in the plastic-resin business, "We're in both markets—adhesives for co-extrusions and for lamination with foil. It's still true that foil lamination for the money is economical and effective. That will stay with us for a long time. When push comes to shove, polymeric barriers are still more expensive." Not surprising, then, is his company's recent introduction of four new adhesive polymers. All are said to provide excellent adhesion to traditional lamination substrates.

Success of the retort pouch is responsible in part for substantial growth in laminations including PP, PE, foil and such adhesives. These pouches are increasingly taking market share from cans in restaurant and institutional packaging. On the consumer level, retort and hot-fill pouches are used for fillings and sauces as parts of meal "kits." Trend-setting makers of pizza and macaroni-and-cheese mixes who originally used cans for their sauces have moved to pouches.

Also finding long-awaited acceptance in institutional applications is VLDPE, very low-density polyethylene. Bag-in-box packaging of syrups is just one market for this material, which is particularly resistant to tears, punctures and impact ruptures.

Controlled-atmosphere and modified-atmosphere applications of film still hold promise, though they are growing less quickly than seemed likely awhile back. The obstacle, according to one film source, is not the technology of film manufacture or the price of materials. "It's the way food processors have to distribute food," he says. "The equipment is there, the co-extruded barrier is there, the technology is there. But CAP just can't overcome the huge foods-distribution system in the U.S." It's another situation in which high-tech capabilities aren't sufficient on their own to win over cautious, skeptical packagers.




Among readers of PACKAGING in foods and beverage markets, 17 percent use laminations; 15.9 percent use co-extrusions; 10.9 percent use metallized films.

#### Metallization shines

Metallization closely follows co-extrusion as a leading flexible-packaging concept in PACKAGING's Material Survey. It's a technology that remains immensely popular with packagers of products needing a combination of high barrier and top graphic appeal. Also, it's finding increased use where graphics aren't significant. A leading maker of salted snacks and crackers has introduced a new line of crackers in folding cartons, inside of which are bags made of metallized polyester.

In answer to growing demand, suppliers of metallized films have increased their capacity considerably. Metallizing equipment is running wider and faster, leading to savings for end users.

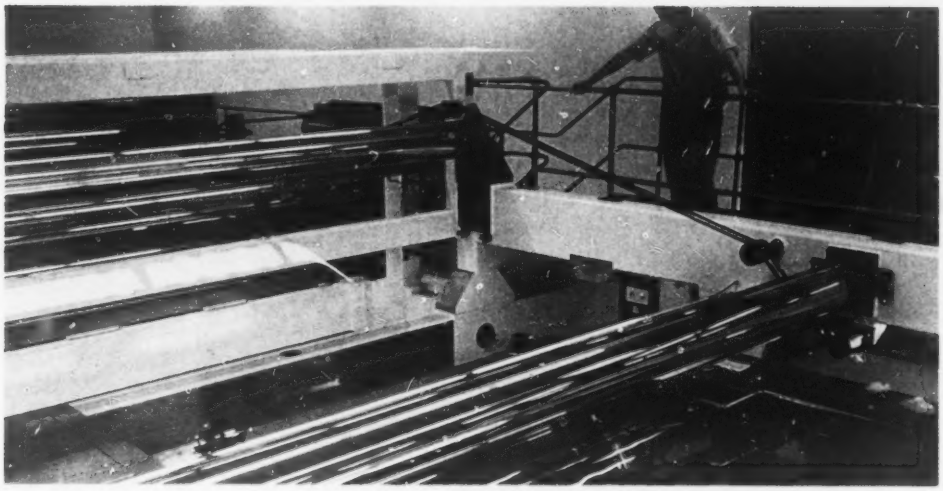
A supplier of metallized films is now touting its recent introduction of sealant-grade metallized OPP films—designed to improve overall machinability in snack-packaging applications. One film in this family provides an improved bonding surface, making it especially well-suited to extrusion lamination.

**Laminated pouches** such as these for cheese and tomato sauces, are gradually replacing some cans in meal "kits." Similar laminates are growing in use in the foodservice industry.

Polypropylene in coated form is simplifying things for a major confectioner. Jacobs-Suchard, owner of Brach's, recently switched from as many as 25 different structures—polyethylene and co-extruded polypropylene among them—to acrylic-coated OPP film for its recently repositioned non-chocolate candy.

The company chose that film for its excellent flavor and aroma protection as well

## Lamination is the flexible concept in widest use among our readers



**Film destined** for primary-packaging application is monitored by an employee of a leading polyester supplier.

as printability. Brach's acceptance of the acrylic-coated material—widely used in Europe—marks the first domestic application. At the time of this writing, the U.S. version of the film was in controlled sales to Jacobs-Suchard.

Also in use overseas is what's called normal butyl acrylate, or NBA. Similar to EVA, NBA is increasingly used by European packagers for its good adhesion to flexible materials PET, BOPP, nylon and PVDC as well as to clay-coated board. Its heat stability up to 600° F. gives NBA a wide sealing range and allows for increased line speeds.

More expensive than EVA, NBA seems likely to find application domestically in laminated film for frozen and fresh food, bag-in-box, cereals and health-care disposables. At present, though, this material does not have FDA approval.

A giant petrochemical company recently introduced a new elastomeric concentrate designed to improve the toughness of high-density and linear low-density polyethylene films. Already, films employing this additive have found application in health-care, personal-care and food packaging.

Other advances in ethylene-based materials, according to one of the biggest players in plastic resins, will soon lead to new forms of HDPE that will in turn make possible extremely light and strong films. From the same company comes the promise of new propylene-based materials. Among them, says a company spokesperson, will be film resins having broadened heat-seal ranges, making them particularly beneficial in use with multilayer BOPP structures.

According to another resin expert, the blending of diverse polymers and polymer-alloying techniques will raise the stiffness and moisture-barrier capabilities of OPP films. And at least one big supplier of polypropylene resins is currently boasting of the work it has been doing with films that print well with water-based inks. Use of these inks so far is limited. But pressure to limit use of solvent-base inks is accelerating development of such films. ■

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**GREG ERICKSON**
Senior Editor
**"Clear barrier materials, growing rapidly in use, still have a way to go to overtake trusty old aluminum foil, the demise of which has been predicted for years now."**